

IN THE CLAIMS

- Sub D1
1. (Twice Amended) A sensor cartridge for a fluid analyte analyzer, including
- a. a sensor assembly, including:
    - i. a substrate;
    - ii. a plurality of sensors deposited on a first side of the substrate;
    - iii. a plurality of electrical conductors deposited on a second side of the substrate;
    - iv. a plurality of subminiature thru-holes having a diameter in the range of about 0.002-.006 inches filled with electrically conductive material, each thru-hole disposed directly under a corresponding one of the sensors for coupling one of the sensors with one of the electrical conductors;
    - v. an electrical connector disposed on the second side of the substrate, the connector having a plurality of electrical contacts, at least some of the electrical contacts corresponding one to one with an associated one of the electrical conductors and at least some of the electrical contacts being coupled to the associated one of the electrical conductors; and
  - b. an encasement into which the sensor assembly is placed for directing the flow of the analyte over the sensors, and preventing contact of the analyte with the second side of the substrate, including:
    - i. an inlet for allowing the fluid analyte to enter the encasement;
    - ii. an outlet for allowing the fluid analyte to exit the encasement;
    - iii. a flow channel between the inlet and the outlet for allowing the fluid
- C1

C1  
analyte to pass through the housing and over each of the sensors; and  
iv. an opening at one side for exposing the electrical connector.

Sub 2  
C2  
6. (Twice Amended) The sensor cartridge of claim 3, further including a third cell, the third cell and the reference cell disposed symmetrically about the flow channel [with respect to the reference cell].

C3  
11. (Twice Amended) The sensor cartridge of claim 1, wherein the encasement is formed of a composition of acrylic, styrene, and [butadine] butadiene.

Please add new claims 19-21 as follows:

Sub 5  
C4  
19. A sensor cartridge for a fluid analyte analyzer, comprising:  
a housing having an inlet and an outlet and a flow channel for allowing the fluid analyte to enter the housing;  
a sensor assembly disposed in said flow channel between the inlet and the outlet;  
said sensor assembly, comprising:  
a substrate having a first side defined by a planar surface;  
a plurality of sensors deposited on said planar surface of said substrate;  
a plurality of electrical conductors deposited on a second side of the substrate;  
a plurality of subminiature thru-holes having a diameter in the range of about 0.002-.006 inches filled with electrically conductive material, each thru-hole disposed directly under a corresponding one of the sensors for coupling one of the sensors with one of the electrical

conductors;

an electrical connector disposed on the second side of the substrate, the connector having a plurality of electrical contacts, at least some of the electrical contacts corresponding one to one with an associated one of the electrical conductors and at least some of the electrical contacts being coupled to the associated one of the electrical conductors, said connector being accessible from the exterior of said housing.

*Sub E27*  
20. The sensor cartridge of claim 19, further comprising a reference cell, and a third cell, the third cell and the reference cell disposed symmetrically about the flow channel.

*C 9/1*  
21. The sensor cartridge of claim 19, wherein the flow channel has a height of less than approximately 0.10 inches and a volume of approximately 0.05 milliliters.

*Sub D67*  
22. The sensor cartridge of claim 19, wherein the electrical conductors have a diameter of about ten times the diameter of the thru-holes.